


# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P04006		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA416
International application No. PCT/NO2005/000090		International filing date (day/month/year) 14.03.2005		Priority date (day/month/year) 22.03.2004
International Patent Classification (IPC) or national classification and IPC INV. C08F2/18				
Applicant NORSK HYDRO ASA et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 1 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  14.10.2005		Date of completion of this report  04.07.2006		
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer  Gold, J  Telephone No. +49 89 2399-8413		



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY****Box No. I Basis of the report**

1. With regard to the **language**, this report is based on
- ☒ the international application in the language in which it was filed
  - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
    - ☐ international search (under Rules 12.3(a) and 23.1(b))
    - ☐ publication of the international application (under Rule 12.4(a))
    - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-13 as published

**Claims, Numbers**

1-4 received on 13.06.2006 with letter of 12.06.2006

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☒ the claims, Nos. 5
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☒ the claims, Nos. 1
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/NO2005/000090

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	
	No: Claims	1-4
Inventive step (IS)	Yes: Claims	
	No: Claims	1-4
Industrial applicability (IA)	Yes: Claims	1-4
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

PCT/NO2005/000090

**Re Item I****Basis****0.1. Claim 1**

Claim 1 was amended in such a manner that its disclosure goes beyond the disclosure of the application as originally filed:

1. Technical features cannot be taken in isolated form from the examples.
2. In the cited text passage on page 6/line 25 to page 7/line 23 support is only given for polymer particles made by emulsion polymerisation (see page 7/lines 2-3).
3. A further text passage on page 6/line 18 shows that the invention is restricted to polymer particles made by emulsion polymerisation.
4. Moreover, the feature two-stage seed polymerisation has been deleted in claim 1.

However, in amended claim 1 such restrictions to emulsion polymerised polymer particles and to two-stage seed polymerisations are totally missing. Thus, subject matter was added to claim 1 by the generalisations made.

As a consequence thereof the report has been established as if the amendments in claim 1 had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c) PCT).

**0.2 Claims 2-4**

Claims 2-4 were amended in a manner which has been authorized by the IPEA (Rule 70.16 PCT).

**0.3. The original use claim 5 has been cancelled by the applicant.****Re Item V****Reasoned statement under Rule 70 PCT with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. In this written opinion the following documents are cited; their numbering will be

adhered to in the rest of the procedure:

D1: US 2003/0109657 A1, Jun. 12. 2003

D2: US 5496897 A, Mar. 5 1996

**2. Novelty**

**2.1. Novelty of original process claim 1**

The subject matter of process claim 1 (unamended; see item basis 0.) is defined by the results to be achieved "for the production of storage stable polymer-oligomer particles with high swelling capacity".

In this Office acting as the International Preliminary examination Authority processes defined in terms of results to be achieved are considered to comply with the requirements of Article 33(2) and (3) PCT only if the processes as such - irrespective of the results to be achieved - fulfill these requirements, i. e. they are new and inventive.

Said processes should be defined by specific process features leading directly and unambiguously to said polymer-oligomer particles. However, the formulation comprising the product features should be kept even if said technical features do not contribute to novelty and inventive step discussion of the process claims. Essential technical process features have to be introduced in independent claim 1 in order to establish novelty within the sense of Article 33(2) PCT over documents D1 and D2 (D1: examples 1,3-5, [0011]-[0012] and [0054]; D2: referential example, examples 1-3, 5-7 and 9, col 1/l 10-38, col 4/l 4-8 and col 5/l 62 - col 6/l 3). As long as the process features of documents D1 and D2 on the one hand and of the present application on the other hand are the same the products obtained by said processes have to be the same, too. That means the polymer-oligomer particle stability is an inherent feature of the cited prior art documents and is automatically of the same dimension as in the present application.

**2.2. Novelty of dependent process claims 2-4**

Claims 2-4 do not contain any features which, in combination with the features of claim 1, meet the requirements of the PCT in respect of novelty.

**3. Inventive step**

As long as novelty is not established, inventive step (Article 33(3) PCT) cannot be

discussed.

4. Industrial applicability of the invention disclosed in claims 1-4 is given within the sense of Article 33(4) PCT on the field of polymerisation.
5. The requirements of Article 33(1) PCT are not met since the subject matter of claims 1-4 is not novel.

**Re Item VIII**

6. Examples 5 and 6  
The ratio initiator/monomer of examples 5 and 6 seems to lie out of the scope of the claims. For examples 5 and 6 it is larger than 0.07:1. Thus, said examples should be marked as examples out of the scope of the claims.
7. Comparative examples 2 and 3  
The ratios initiator/monomer of comparative examples 2 and 3 seem to lie within the scope of the claims (between 0.02 and 0.03). Thus, said examples are examples within the scope of the claims.
8. Clarity of claim 1  
The term "storage stable" as used in claim 1 is unclear within the sense of Article 6 PCT. Thus, it has no restricting function to the subject matter of claim 1 (see also item 2. of this IPER).

**Amended claims (12.06.2006):**

- 5 1. A method for production of storage stable polymer-oligomer particles with a high swelling capacity where polymer particles at first are added an initiator that is swelled into said particles and subsequently a monomer, or a mixture containing monomer, is added that is swelled into said particles,  
**characterised in that**
- 10 the mole ratio between said initiator and said monomer is in the range from 0.07:1 to 0.01:1.
2. A method in accordance with claim 1,  
**characterised in that**
- 15 the mole ratio between said initiator and said monomer is in the range from 0.06:1 to 0.03:1.
3. A method in accordance with claim 1,  
**characterised in that**
- 20 said initiator is swelled into said polymer particles as a finely divided emulsion before monomer or a mixture containing monomer is added.
4. A method in accordance with claims 1,  
**characterised in that**
- 25 said monomer is added by drops to said polymer particles.
- 30

**AMENDED SHEET****BEST AVAILABLE COPY**